Docket No. 0756-1896

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	Art Unit: 2814
Hisashi OHTANI et al.	)	Examiner: P. Cao
Serial No. 09/197,767	)	
Filed: November 23, 1998	)	
For: SEMICONDUCTOR DEVICE AND PROCESS FOR PRODUCING THE SAME	)	

CERTIFICATE OF MAILING

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RESPONSE

Honorable Commissioner of Patents
Washington, D.C. 20231

Sir:

The Official Action mailed May 29, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time* which extends the shortened statutory period for response to September 29, 2002. Accordingly, Applicant respectfully submits that this response is being timely filed.

Applicants note with appreciation the consideration of the Information Disclosure Statements filed on March 16, 2000; June 14, 2000; October 19, 2000; January 31, 2001; October 31, 2001; and February 28, 2002. Applicants respectfully request consideration of the Information Disclosure Statement filed on June 13, 2002.

Claims 1-6, 9, 10, 15, 16, 22-27, 40 and 46-74 are pending in the present application, of which claims 1-6 and 48-50 are independent. For the reasons set forth in detail below, these claims are believed to be in condition for allowance.

Paragraphs 4-9 of the Official Action reject claims 1-5, 16, 22-27, 40 and 46-74 as obvious based on U.S. Patent 6,081,305 to Sato et al. in view of one or more of the following patents: U.S. Patent 5,706,064 to Fukunaga et al., U.S. Patent 5,990,542 to Yamazaki, and U.S. Patent 6,097,453 to Okita. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2143-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab,* 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Specifically, Sato does not teach or suggest a semiconductor device with both a pixel electrode and an embedded conductive layer provided to fill a contact hole with a top surface flush with a top surface of an interlayer insulating film. The Official Action asserts that Fig. 2 of Sato discloses that "the embedded conductive layer 171 and the second conductive layer 181 are two different conductive portions" (Paper No. 25, p. 11). The Applicants respectfully disagree. Reference number 171 in Sato refers to a through hole (col. 15, line 4) and not an embedded conductive layer. Sato discloses a third metal layer 180 formed on the third insulating layer 170 which penetrates the insulating layer 170 to contact the second metal layer 160 (col. 14, lines 19-21). As such, the third metal layer 180 of Sato includes the portion which fills the through hole 171. Therefore, Sato does not teach a semiconductor device comprising both a pixel electrode and an embedded conductive layer.

Furthermore, Fukunaga, Yamazaki and Okita do not cure the deficiencies in Sato. Nothing in the prior art, either alone or in combination, suggests dividing the third metal layer 180 of Sato into a reflective pixel electrode and an embedded conductive

layer provided to fill a contact hole with a top surface flush with a top surface of an interlayer insulating film.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-5, 16, 22-27, 40 and 46-74 under 35 U.S.C. § 103(a) is in order and respectfully requested.

Paragraphs 10 and 11 of the Official Action reject claims 6 and 15 as obvious based on the combination of Yamazaki and U.S. Patent 5,948,705 to Jun, and claims 9 and 10 as obvious based on the combination of Yamazaki, Jun and Fukunaga. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Yamazaki and Jun or to combine reference teachings to achieve the claimed invention. Specifically, the Applicants respectfully submit that there is no teaching in the prior art to teach or suggest how the interconnection line of Jun would be used in lieu of the pixel electrode of Yamazaki.

Even assuming motivation could be found, the Official Action has not given any indication that one with ordinary skill in the art at the time of the invention would have had a reasonable expectation of success when combining Yamazaki and Jun.

The Applicants further contend that even assuming, *arguendo*, that the combination of Yamazaki and Jun is proper, there is a lack of suggestion as to why a skilled artisan would use the proposed modifications to achieve the unobvious advantages first recognized by the Applicants. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

Accordingly, reconsideration and withdrawal of the rejection of claims 6, 9, 10 and 15 under 35 U.S.C. § 103(a) is in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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2814

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TRANSMITTAL FORM

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First Named Inventor	Hisashi OHTANI et al.
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Examiner Name	P. Cao
Attorney Docket Number	0756-1896

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☒ Fee Attached
- ☒ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☒ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Declaration and Power of Attorney
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosures
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Remarks

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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Signature	
Date	9-30-02

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Type or printed name	Ava M. Dixon		
Signature		Date	9/30/02

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